Introduction - Grade 3 Mathematics

The following released test questions are taken from the Grade 3 Mathematics Standards Test. This test is one of the California Standards Tests administered as part of the Standardized Testing and Reporting (STAR) Program under policies set by the State Board of Education.

All questions on the California Standards Tests are evaluated by committees of content experts, including teachers and administrators, to ensure their appropriateness for measuring the California academic content standards in Grade 3 Mathematics. In addition to content, all items are reviewed and approved to ensure their adherence to the principles of fairness and to ensure no bias exists with respect to characteristics such as gender, ethnicity, and language.

This document contains released test questions from the California Standards Test forms in 2003, 2004, and 2005. First on the pages that follow are lists of the standards assessed on the Grade 3 Mathematics Test. Next are released test questions. Following the questions is a table that gives the correct answer for each question, the content standard that each question is measuring, and the year each question last appeared on the test.

The following table lists each strand/reporting cluster, the number of items that appear on the exam, and the number of released test questions that appear in this document.

STRAND/REPORTING CLUSTER	NUMBER OF QUESTIONS ON EXAM	NUMBER OF RELEASED TEST QUESTIONS
Number Sense – Place Value, Fractions, and Decimals	16	12
Number Sense – Addition, Subtraction, Multiplication, and Division	16	12
Algebra and Functions	12	9
Measurement and Geometry	16	12
Statistics, Data Analysis, and Probability	5	3
TOTAL	65	48

In selecting test questions for release, three criteria are used: (1) the questions adequately cover a selection of the academic content standards assessed on the Grade 3 Mathematics Test; (2) the questions demonstrate a range of difficulty; and (3) the questions present a variety of ways standards can be assessed. These released test questions do not reflect all of the ways the standards may be assessed. Released test questions will not appear on future tests.

For more information about the California Standards Tests, visit the California Department of Education's Web site at http://www.cde.ca.gov/ta/tg/sr/resources.asp.

THE NUMBER SENSE STRAND

In Grade 3, there are two reporting clusters within the Number Sense strand: 1) Place Value, Fractions, and Decimals and 2) Addition, Subtraction, Multiplication, and Division. This booklet contains released test questions for each of these clusters.

The following nine California content standards are included in the Place Value, Fractions, and Decimals reporting cluster of the Number Sense strand and are represented in this booklet by 12 test questions. These questions represent only some ways in which these standards may be assessed on the Grade 3 California Mathematics Standards Test.

CALIFORNIA CONTENT STANDARDS IN THIS REPORTING CLUSTER

Number Sense	
Standard Set 1.0	**Students understand the place value of whole numbers:**
3NS1.1	Count, read, and write whole numbers to 10,000.
3NS1.2	Compare and order whole numbers to 10,000.
3NS1.3*	Identify the place value for each digit in numbers to 10,000.
3NS1.4	Round off numbers to 10,000 to the nearest ten, hundred, and thousand.
3NS1.5*	Use expanded notation to represent numbers (e.g., 3,206 = 3,000 + 200 + 6).
Standard Set 3.0	**Students understand the relationship between whole numbers, simple fractions, and decimals:**
3NS3.1	Compare fractions represented by drawings or concrete materials to show equivalency and to add and subtract simple fractions in context (e.g., 1/2 of a pizza is the same amount as 2/4 of another pizza that is the same size; show that 3/8 is larger than 1/4).
3NS3.2*	Add and subtract simple fractions (e.g., determine that 1/8 + 3/8 is the same as 1/2).
3NS3.3*	Solve problems involving addition, subtraction, multiplication, and division of money amounts in decimal notation and multiply and divide money amounts in decimal notation by using whole-number multipliers and divisors.
3NS3.4	Know and understand that fractions and decimals are two different representations of the same concept (e.g., 50 cents is 1/2 of a dollar, 75 cents is 3/4 of a dollar).

* Denotes key standards (*Mathematics Framework for California Public Schools*)

The following seven California content standards are included in the Addition, Subtraction, Multiplication, and Division reporting cluster of the Number Sense strand and are represented in this booklet by 12 test questions. These questions represent only some ways in which these standards may be assessed on the Grade 3 California Mathematics Standards Test.

CALIFORNIA CONTENT STANDARDS IN THIS REPORTING CLUSTER

Number Sense	
Standard Set 2.0	**Students calculate and solve problems involving addition, subtraction, multiplication, and division:**
3NS2.1*	Find the sum or difference of two whole numbers between 0 and 10,000.
3NS2.3*	Use the inverse relationship of multiplication and division to compute and check results.
3NS2.4*	Solve simple problems involving multiplication of multi-digit numbers by one-digit numbers (3,671 × 3 = ___).
3NS2.5	Solve division problems in which a multi-digit number is evenly divided by a one-digit number (135 ÷ 5 = ___).
3NS2.6	Understand the special properties of 0 and 1 in multiplication and division.
3NS2.7	Determine the unit cost when given the total cost and number of units.
3NS2.8	Solve problems that require two or more of the skills mentioned above.

* Denotes key standards (*Mathematics Framework for California Public Schools*)

THE ALGEBRA AND FUNCTIONS STRAND/REPORTING CLUSTER

The following seven California content standards are included in the Algebra and Functions strand/reporting cluster and are represented in this booklet by nine test questions. These questions represent only some ways in which these standards may be assessed on the Grade 3 California Mathematics Standards Test.

CALIFORNIA CONTENT STANDARDS IN THIS STRAND/CLUSTER

Algebra and Functions	
Standard Set 1.0	**Students select appropriate symbols, operations, and properties to represent, describe, simplify, and solve simple number relationships:**
3AF1.1*	Represent relationships of quantities in the form of mathematical expressions, equations, or inequalities.
3AF1.2	Solve problems involving numeric equations or inequalities.
3AF1.3	Select appropriate operational and relational symbols to make an expression true (e.g., if 4 ___ 3 = 12, what operational symbol goes in the blank?).
3AF1.4	Express simple unit conversions in symbolic form (e.g., _____inches = _____feet × 12).
3AF1.5	Recognize and use the commutative and associative properties of multiplication (e.g., if 5 × 7 = 35, then what is 7 × 5? and if 5 × 7 × 3 = 105, then what is 7 × 3 × 5?).
Standard Set 2.0	**Students represent simple functional relationships:**
3AF2.1*	Solve simple problems involving a functional relationship between two quantities (e.g., find the total cost of multiple items given the cost per unit).
3AF2.2	Extend and recognize a linear pattern by its rules (e.g., the number of legs on a given number of horses may be calculated by counting by 4s or by multiplying the number of horses by 4).

* Denotes key standards (*Mathematics Framework for California Public Schools*)

THE MEASUREMENT AND GEOMETRY STRAND/REPORTING CLUSTER

The following ten California content standards are included in the Measurement and Geometry strand/reporting cluster and are represented in this booklet by 12 test questions. These questions represent only some ways in which these standards may be assessed on the Grade 3 California Mathematics Standards Test.

CALIFORNIA CONTENT STANDARDS IN THIS STRAND/CLUSTER

Measurement and Geometry	
Standard Set 1.0	**Students choose and use appropriate units and measurement tools to quantify the properties of objects:**
3MG1.1	Choose the appropriate tools and units (metric and U.S.) and estimate and measure the length, liquid volume, and weight/mass of given objects.
3MG1.2*	Estimate or determine the area and volume of solid figures by covering them with squares or by counting the number of cubes that would fill them.
3MG1.3*	Find the perimeter of a polygon with integer sides.
3MG1.4	Carry out simple unit conversions within a system of measurement (e.g., centimeters and meters, hours and minutes).
Standard Set 2.0	**Students describe and compare the attributes of plane and solid geometric figures and use their understanding to show relationships and solve problems:**
3MG2.1*	Identify, describe, and classify polygons (including pentagons, hexagons, and octagons).
3MG2.2*	Identify attributes of triangles (e.g., two equal sides for the isosceles triangle, three equal sides for the equilateral triangle, right angle for the right triangle).
3MG2.3*	Identify attributes of quadrilaterals (e.g., parallel sides for the parallelogram, right angles for the rectangle, equal sides and right angles for the square).
3MG2.4	Identify right angles in geometric figures or in appropriate objects and determine whether other angles are greater or less than a right angle.
3MG2.5	Identify, describe, and classify common three-dimensional geometric objects (e.g., cube, rectangular solid, sphere, prism, pyramid, cone, cylinder).
3MG2.6	Identify common solid objects that are the components needed to make a more complex solid object.

* Denotes key standards (*Mathematics Framework for California Public Schools*)

THE STATISTICS, DATA ANALYSIS, AND PROBABILITY STRAND/REPORTING CLUSTER

The following three California content standards are included in the Statistics, Data Analysis, and Probability strand/reporting cluster and are represented in this booklet by three test questions. These questions represent only some ways in which these standards may be assessed on the Grade 3 California Mathematics Standards Test.

CALIFORNIA CONTENT STANDARDS IN THIS STRAND/CLUSTER

Statistics, Data Analysis, and Probability	
Standard Set 1.0	**Students conduct simple probability experiments by determining the number of possible outcomes and make simple predictions:**
3PS1.1	Identify whether common events are certain, likely, unlikely, or improbable.
3PS1.2*	Record the possible outcomes for a simple event (e.g., tossing a coin) and systematically keep track of the outcomes when the event is repeated many times.
3PS1.3*	Summarize and display the results of probability experiments in a clear and organized way (e.g., use a bar graph or a line plot).

* Denotes key standards (*Mathematics Framework for California Public Schools*)

1 How is eight thousand, seventy-six written in standard form?

A 8067

B 8076

C 8706

D 8760

2 Which set of numbers is in order from greatest to least?

A 147, 163, 234, 275

B 275, 234, 163, 147

C 275, 163, 234, 147

D 163, 275, 234, 147

3 Which number has a 4 in the tens place and a 4 in the hundreds place?

A 6424

B 6244

C 4462

D 6442

4 Which digit is in the hundreds place in the number 3174?

A 1

B 3

C 4

D 7

5 Sophie has 527 seashells in her collection. Which of these equals 527?

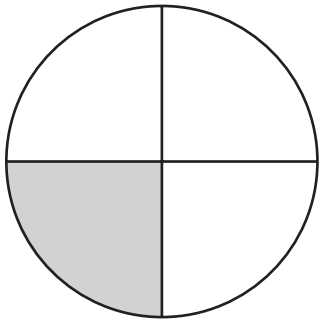
A $5 + 2 + 7$

B $5 + 20 + 700$

C $500 + 20 + 7$

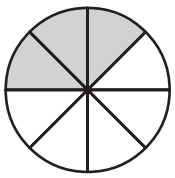
D $500 + 200 + 70$

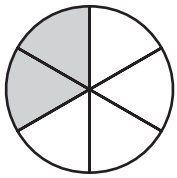
6 The circle shows $\frac{1}{4}$ shaded.

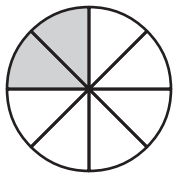


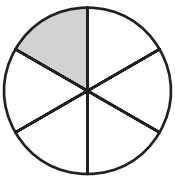
$= \frac{1}{4}$

Which fractional part of a circle below is equal to $\frac{1}{4}$?

A  $= \frac{3}{8}$

C  $= \frac{2}{6}$

B  $= \frac{2}{8}$

D  $= \frac{1}{6}$

7 $\frac{1}{4} + \frac{2}{4} =$

A $\frac{6}{6}$

B $\frac{2}{6}$

C $\frac{2}{3}$

D $\frac{3}{4}$

8 A pie was divided into fifths. Emily ate $\frac{1}{5}$ of the pie. Tony ate $\frac{2}{5}$ of the pie. Jenny ate $\frac{1}{5}$ of the pie. How much of the pie was left?

A $\frac{4}{5}$

B $\frac{3}{5}$

C $\frac{2}{5}$

D $\frac{1}{5}$

9 **Reggie compared the prices of two radios. The table below shows the prices.**

Cost of Radios

Brand	Cost
A	$31.47
B	$34.71

How much more does Brand B cost than Brand A?

A $3.24

B $3.26

C $3.34

D $3.36

10 **Adam has $5.00 to buy an airplane that costs $4.28. How much change should he get back?**

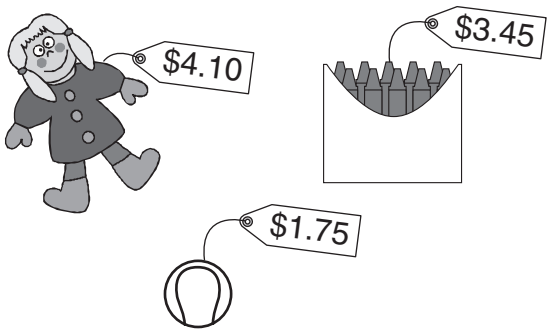
A 70¢

B 72¢

C 75¢

D 82¢

11 **Carmen bought these three things.**



What was the total cost of these three items?

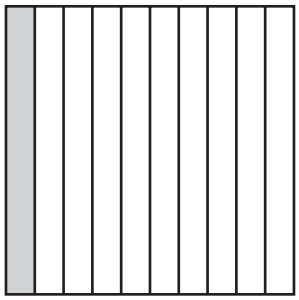
A $9.30

B $9.20

C $8.30

D $8.20

12 **Donna shaded $\frac{1}{10}$ of the figure.**



Which decimal equals $\frac{1}{10}$?

A 0.01

B 0.1

C 0.110

D 1.0

13 $9000 - 3782 =$

A 5218

B 5328

C 6782

D 12,782

---

14 **Look at the number sentence below.**

$$67 + \square = 121$$

Which number will make the number sentence true?

A 54

B 56

C 64

D 68

---

15 **Which number is 6 more than 1026?**

A 1022

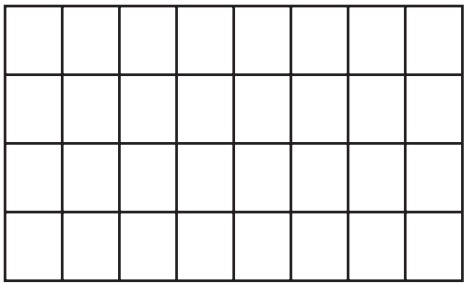
B 1032

C 1122

D 1132

16 **The figure below is a model for the multiplication sentence.**

$$8 \times 4 = 32$$



Which division sentence is modeled by the same figure?

A $8 \div 4 = 2$

B $12 \div 4 = 3$

C $24 \div 8 = 3$

D $32 \div 8 = 4$

---

17 **Lily did this division problem.**

$$375 \div 25 = 15$$

Which problem could she do to check her answer?

A $25 + 15 = \square$

B $25 - 15 = \square$

C $25 \times 15 = \square$

D $25 \div 15 = \square$

18 A company has 6 big trucks. Each truck has 18 wheels. How many wheels is this in all?

A 24

B 96

C 108

D 116

---

19 On Friday, 1250 people visited the zoo. Three times as many people visited on Saturday than on Friday. How many people visited the zoo on Saturday?

A 3615

B 3650

C 3750

D 3753

---

20 Third-grade students went to a concert in 8 buses. Each bus took 45 students. How many students went to the concert?

A 320

B 360

C 380

D 3240

---

21 During Field Day, 1624 students from Glen Hill School were equally divided into 8 different events. How many students were in each event?

A 203

B 206

C 221

D 224

---

22 What number can be multiplied by 5768 to give the answer 5768?

$$5768 \times \square = 5768$$

A 0

B 1

C 2

D 10

---

23 Mr. Brown bought 6 towels. All the towels were the same price. The total cost was $84. How much money did each towel cost?

A $11

B $14

C $78

D $504

24 Tony had $20. He paid $8 for a ticket to a baseball game. At the game, he bought a hot dog for $3. What amount of money did Tony have then?

A $5
B $9
C $11
D $15

25 Mr. Guzman bought 48 doughnuts packed equally into 4 boxes. Which number sentence shows how to find the number of doughnuts in each box?

A $48 - 4 = \square$
B $48 \div 4 = \square$
C $48 + 4 = \square$
D $48 \times 4 = \square$

26 What number makes this number sentence true?

$$3 + 5 = \square \times 2$$

A 3
B 4
C 5
D 6

27 What number makes this number sentence true?

$$6 \times 9 < 3 \times \square$$

A 18
B 19
C 16
D 17

28 Which sign goes in the box to make the number sentence true?

$$48 \square 6 = 8$$

A $+$
B $-$
C $\times$
D $\div$

29 Which of the following is used to find out how many inches are in 5 feet?

A 5×12
B $12 \div 5$
C $5 + 12$
D $12 - 5$

30 If $7 \times 11 \times 13 = 1001$, then what is $11 \times 7 \times 13$?

A 77

B 91

C 143

D 1001

31 One stamp costs 34¢. Two stamps cost 68¢. Three stamps cost $1.02. If the cost of each stamp remains the same, how much would 4 stamps cost?

A $1.26

B $1.34

C $1.36

D $12.16

32 The table shows the number of colored pencils needed for different numbers of students.

Colored Pencils

Number of Students	Number of Pencils
1	4
2	8
3	12

If each student gets the same number of pencils, how many are needed for 6 students?

A 22

B 24

C 26

D 27

33 If bananas cost 35¢ per pound, how much will 4 pounds cost?

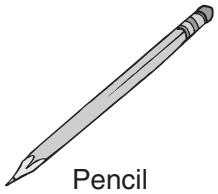
A $0.39

B $1.20

C $1.29

D $1.40

34 **Which of the following objects is heavier than 1 pound?**

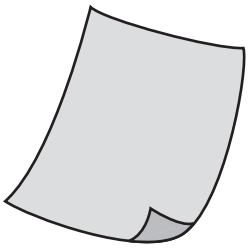


Pencil

A

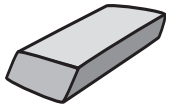
Backpack

B



Paper

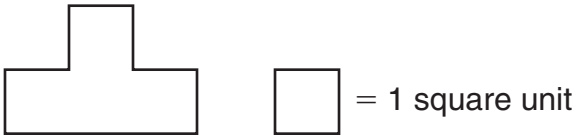
C



Eraser

D

35 **What is the area of this figure?**



A 2 square units

B 3 square units

C 4 square units

D 6 square units

36 **A basketball court is shaped like a rectangle 20 meters long and 10 meters wide.**

What is the perimeter in meters of the court?

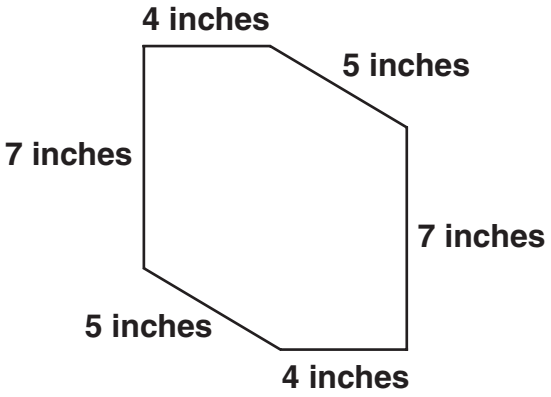
A 30 meters

B 50 meters

C 60 meters

D 200 meters

37 What is the perimeter of the figure?



A 18 inches

B 22 inches

C 24 inches

D 32 inches

38 There are 1,000 meters in 1 kilometer. How many meters are in 5 kilometers?

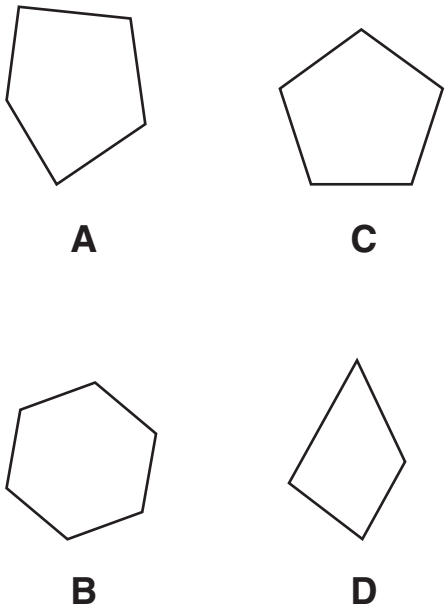
A 1,000 meters

B 50 meters

C 200 meters

D 5,000 meters

39 Which of these is a hexagon?



A

C

B

D

40 An isosceles triangle MUST have

A 4 sides that are the same length.

B 3 sides that are the same length.

C 2 sides that are the same length.

D no sides that are the same length.

41 **One side of a rectangle is 8 feet long. Another side of the rectangle is 10 feet long. What are the lengths of the other 2 sides of the rectangle?**

A They could be any length.

B 10 feet and 8 feet

C 10 feet and 10 feet

D 8 feet and 8 feet

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42 **How many right angles are in a rectangle?**

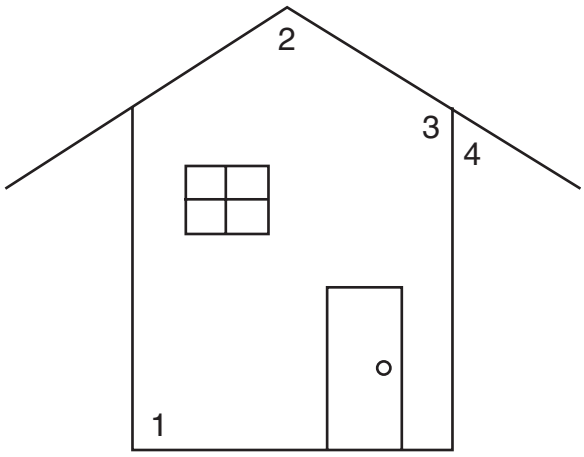
A 1

B 2

C 3

D 4

43 **Look at the four angles marked on the picture of a house.**



Which angle is a right angle?

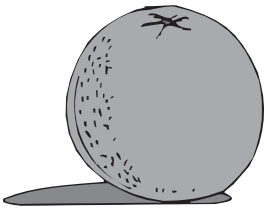
A angle 1

B angle 2

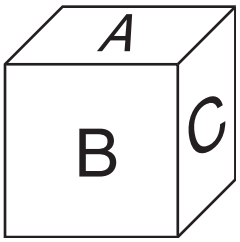
C angle 3

D angle 4

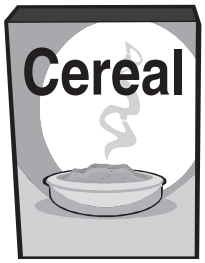
44 **Which object is a cylinder?**



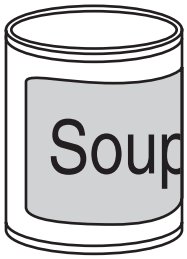
A



C

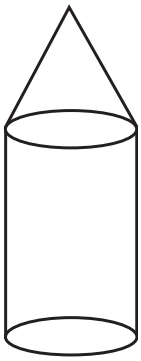


B



D

45 **Which shapes make up this solid object?**



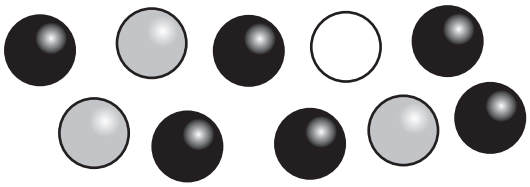
A cone and cylinder

B circle and triangle

C triangle and cylinder

D rectangle, triangle, and circle

46 **Miriam put 10 marbles in a paper sack. Six of the marbles were black, three were gray, and one was white.**



Miriam closed her eyes and took one marble out of the sack. Is it certain, likely, unlikely, or impossible that the marble she picked was white?

A certain

B likely

C unlikely

D impossible

47 **A spinner landed on "Red" 6 times, "Blue" 4 times, and "Green" 5 times. Which tally chart shows these results?**

A

Spin Results	
Red	𝍸 | |
Blue	| | | |
Green	𝍸 |

C

Spin Results	
Red	𝍸
Blue	| | | |
Green	𝍸 |

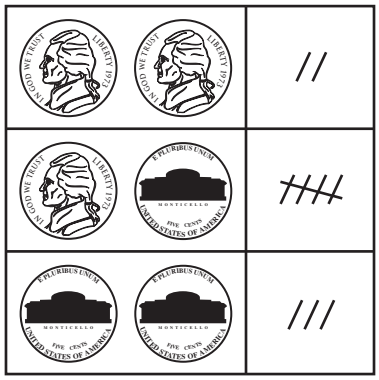
B

Spin Results	
Red	𝍸 |
Blue	| | | |
Green	𝍸

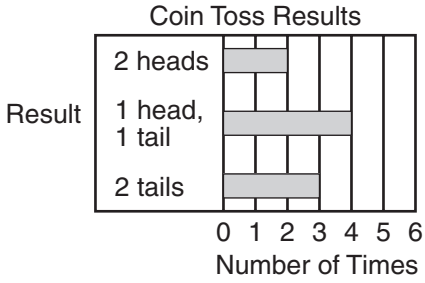
D

Spin Results	
Red	| | | |
Blue	𝍸
Green	𝍸 |

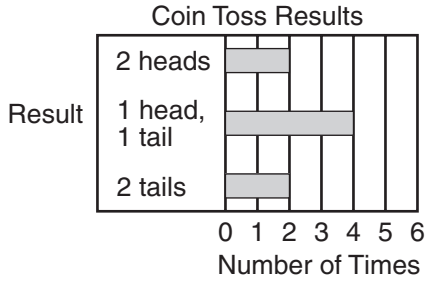
48 **Danny tossed 2 nickels 10 times. The results are shown in the tally chart below.**



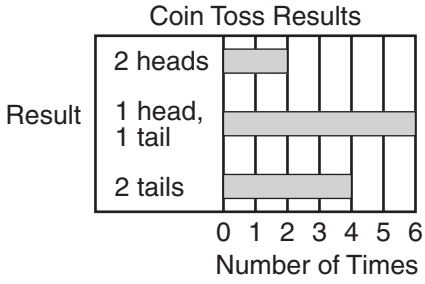
Which graph shows these results?



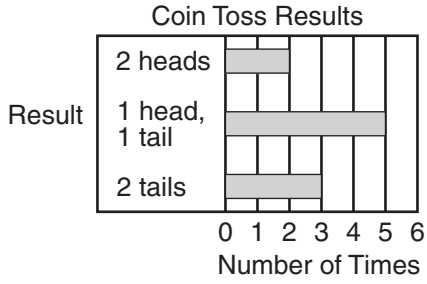
A



C



B



D

Question Number	Correct Answer	Standard	Year of Test
1	*B*	3NS1.1	2005
2	*B*	3NS1.2	2003
3	*D*	3NS1.3	2004
4	*A*	3NS1.3	2005
5	*C*	3NS1.5	2003
6	*B*	3NS3.1	2003
7	*D*	3NS3.2	2003
8	*D*	3NS3.2	2004
9	*A*	3NS3.3	2003
10	*B*	3NS3.3	2004
11	*A*	3NS3.3	2005
12	*B*	3NS3.4	2004
13	*A*	3NS2.1	2003
14	*A*	3NS2.1	2005
15	*B*	3NS2.1	2005
16	*D*	3NS2.3	2003
17	*C*	3NS2.3	2005
18	*C*	3NS2.4	2003
19	*C*	3NS2.4	2005
20	*B*	3NS2.4	2005
21	*A*	3NS2.5	2004
22	*B*	3NS2.6	2004
23	*B*	3NS2.7	2004
24	*B*	3NS2.8	2004
25	*B*	3AF1.1	2003
26	*B*	3AF1.2	2003
27	*B*	3AF1.2	2005
28	*D*	3AF1.3	2004
29	*A*	3AF1.4	2005
30	*D*	3AF1.5	2004
31	*C*	3AF2.1	2003
32	*B*	3AF2.1	2004
33	*D*	3AF2.1	2005

Question Number	Correct Answer	Standard	Year of Test
34	*B*	3MG1.1	2004
35	*C*	3MG1.2	2003
36	*C*	3MG1.3	2003
37	*D*	3MG1.3	2005
38	*D*	3MG1.4	2004
39	*B*	3MG2.1	2003
40	*C*	3MG2.2	2004
41	*B*	3MG2.3	2004
42	*D*	3MG2.3	2005
43	*A*	3MG2.4	2003
44	*D*	3MG2.5	2005
45	*A*	3MG2.6	2005
46	*C*	3PS1.1	2005
47	*B*	3PS1.2	2003
48	*D*	3PS1.3	2004